University of Gdańsk

Subject card

Subject name and code	Organic chemistry, PG_00198298		
Field of study	Genetics and Experimental Biology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	exam
Conducting unit	Laboratory of Carbohydrate Chemistry -> Department of Organic Chemistry -> Faculty of Chemistry -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Janusz Madaj	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						

Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
	Number of study hours	30	2.0	18.0	50

Subject objectives	presenting students with basic issues regarding organic chemistry familiarizing students with the basic types of organic compounds and their basic biological role learning the basics of independently conducting chemical experiments

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_K02] The graduate is prepared to: critically evaluate their own knowledge and methods in molecular biology and related fields and commercialise their research.	observation and assessment of the student's attitudes (the student constantly raises his/her own qualifications using the latest literature reports)	[SK4] test/exam - oral or written
[GBEL3_K05] The graduate is prepared to: responsibility for their own and others' safety at work	observation and assessment of the student's attitudes (the student constantly raises his/her own qualifications using the latest literature reports)	[SK4] test/exam - oral or written
[GBEL3_K07] The graduate is prepared to: lifelong learning and updating of knowledge in molecular genetics and other fields.	observation and assessment of the student's attitudes (the student constantly raises his/her own qualifications using the latest literature reports)	[SK4] test/exam - oral or written
[GBEL3_K08] The graduate is prepared to: takes responsibility for equipment/materials entrusted to it and respects the work of others.	observation and assessment of the student's attitudes (the student constantly raises his/her own qualifications using the latest literature reports)	[SK4] test/exam - oral or written
[GBEL3_U01] The graduate is able to: independently perform practical tasks in the biological and related sciences, formulate research problems, analyse their results and draw conclusions.	written work exam (by answering the questions, the student understands the laws and concepts related to organic chemistry	[SU4] test/exam - oral or written
[GBEL3_U03] The graduate is able to: use research apparatus and tools and, following the correct sequence of operations, carry out simple physical, biological or chemical observations and measurements in laboratory work in the biological sciences.	written work exam (by answering the questions, the student understands the laws and concepts related to organic chemistry	[SU4] test/exam - oral or written
[GBEL3_W02] A graduate has an advanced knowledge and understanding of:: knowledge of mathematics, physics and chemistry to the extent necessary for understanding biological phenomena and processes and their application in research methodology.	written work, exam (student distinguishes and describes the structure and properties of groups of organic compounds	[SW4] test/exam - oral or written
[GBEL3_W09] A graduate has an advanced knowledge and understanding of: principles of occupational health and safety and ergonomics.	written work, exam (student distinguishes and describes the structure and properties of groups of organic compounds	[SW4] test/exam - oral or written

Subject contents

Lecture topics: Basic knowledge about selected groups of organic compounds, alkanes, alkenes, aromatic compounds, alcohols, aldehydes, ketones, ethers, amines, carboxylic acids, esters of organic and inorganic acids, heterocyclic compounds, amino acids, monosaccharides, oligosaccharides and polysaccharides, nucleic acids , constitutional and configurational isometry, absolute configuration of the chiral carbon atom, basic reaction mechanisms: addition (A), substitution (S) and elimination (E), acidity and alkalinity of organic compounds, oxidation and reduction of organic compounds, solubility of organic compounds in water and other less polar and polar solvents.

Prerequisites and co-requisites

Basic knowledge of general chemistry

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
• written exam with open questions (tasks).	51.0%	100.0%

Recommended reading

Basic literature	A.1. A.1 Used during classes: Organic Chemistry, 4th Edition, Paula Yurkanis Bruice Organic Chemistry, 5th Edition, L. G. Wade General, Organic, and Biological Chemistry, 5th Edition, H. Stephen Stoker Morrison R., Boyd R. 1999. Organic chemistry. PWN, Warsaw. McMurry John, 2005. Organic chemistry, PWN Scientific Publishing House A.2. Studying independently by the student: Kupryszewski G., Sobocińska M., Walczyna R. 1988. Basics of the preparation of organic compounds. Ed. Gdańsk, Gdańsk. Walczyna R., Sokołowski J., Kupryszewski G. 1996. Analysis of organic compounds. Ed. UG, Gdańsk.
Supplementary literature	non
eResources addresses	

Example issues/ example questions/ tasks being completed	Consistent with the content of the lecture.
Work placement	Not applicable

Document generated electronically. Does not require a seal or signature.